Women play a key role in West Africa’s food economy. However, few studies adequately describe the structure and functioning of their networks. The Social Network Analysis (SNA) approach is particularly relevant to the informal dimension of cross-border trade. This innovative approach illustrates the distribution of activities and the movement of goods between producers, traders and wholesalers; identifies gender roles and sheds light on the nature of relationships between actors, addressing both power and information-based networks.

Disaggregated information by country can demonstrate the transnational dimension of networks and measure border effect.

**Methodology and geography**

The SNA method, used in the publication “Cross-Border Co-operation and Policy Networks in West Africa” (OECD/SWAC, 2015-16) is applied to this programme at the local and regional level. In the Dendi region, a series of «snowball sampling» surveys will be conducted from producer to consumer in order to reconstruct cross-border agricultural networks.

The local analysis will highlight the functional reality of economic trade while the regional analysis, conducted in parallel, will examine the governance structures of these networks and the institutional landscape. The combination of these two levels of analysis will help identify strengths and weaknesses in governance structures while contributing to enhancing policy frameworks that can respond to the structural constraints and widen opportunities for women’s market access.

**Supply chain by role**

- Producers
- Rural assemblers
- Urban wholesalers
- Retailers
- Exporters
- Importers
- Processors
- Consumers

Attributes by actor:
- gender
- nationality
- products, etc.
THE DENDI REGION: TRADE AND MOVEMENT

Historically, the Dendi area was populated by three main groups, the *Bariba*, the *Boko* (who developed farming) and the *Dendi* (agriculture and fishing) followed by the pastoral *Fulani* people who then migrated to the area. The area is a notable commercial centre with strong regional influence.

Flows between Niger and Benin via the Gaya-Malanville corridor are structured around import-export movements and local products. Flows into Benin include cowpea (black-eyed peas), onion, nutmeg, sesame and acacia gum as well as livestock products (livestock, meat, hides and skins).

Flows from Benin consist of cereals (millet, maize, rice and cassava derivatives, gari or ‘cassava flour’ and tapioca) available on the Malanville market, and imports of pasta, cornmeal and wheat, sugar, salt, yams, fruits, hydrocarbons, building materials and plastic products from both the international and Nigerian market. The vast majority of this trade is informal.

Climatic variability has become more pronounced in the region, with abundant rainfall from 1930 to 1950 followed by a dry period, including a series of droughts, over the next three decades. The resultant population and herd migrations have impacted the use of environmental resources and competition for land. In addition to the spatial pressure caused by shifts in population, the balance between farmers and pastoralists has been weakened by the convergence between the two production systems and a reduction in ecological and economic synergies, resulting in competition between the two. Coupled with these gradual and sudden changes in livelihood systems are economic, social, religious and political factors which are liable to create tensions, especially if these transitions are not taken into account in national or local policy.

Population potential: Gaya-Malanville-Kamba (Dendi)

This mapping exercise illustrates the spatial extent of areas where cross-border socio-economic interaction takes place (functional regions).

<table>
<thead>
<tr>
<th>Travel time (min)</th>
<th>Population 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5-1</td>
<td>Medium density</td>
</tr>
<tr>
<td>1-2</td>
<td>High density</td>
</tr>
<tr>
<td>2-3</td>
<td>Very high density</td>
</tr>
<tr>
<td>3-3.5</td>
<td>Inland borders</td>
</tr>
<tr>
<td>3.5-4</td>
<td>Border markets</td>
</tr>
</tbody>
</table>

Malanville is an important trading centre with its new market facilities, its roadside stalls – which, though rudimentary, provides a premises for female vendors in particular – and its queues of trucks. Its economic operators come from Niger, Ghana, Nigeria, Togo and Benin itself. The vast majority of this trade is informal. Its northern districts back onto the river, with a 600-metre bridge linking it to Gaya and Niger. This single checkpoint (on a border more than a hundred kilometres long) is insufficient for the control of goods flows and for the collection of tax receipts.

The river, which forms a natural frontier, skirts the northern part of Benin and is easy to cross in by canoe. The south-east side of Gaya looks toward Nigerian towns such as Kamba, and Malanville’s eastern border facing Nigeria.

70% (USD 126 billion) of the West African food economy is traded in markets.

In urban areas, 90% of food is supplied by markets, compared to 50% in rural areas. Consumption of processed products is growing rapidly, as is the consumption of fruits and vegetables, meat and fish.

39% of products consumed in West Africa are processed.

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Area (km²)</th>
<th>Density (per km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaya</td>
<td>50 368</td>
<td>9.69</td>
<td>5 198</td>
</tr>
<tr>
<td>Malanville</td>
<td>60 806</td>
<td>7.01</td>
<td>8 674</td>
</tr>
<tr>
<td>Kamba</td>
<td>51 468</td>
<td>6.63</td>
<td>7 763</td>
</tr>
</tbody>
</table>
TEAM AND PARTNERSHIPS

A multidisciplinary and international team is involved in the work including the Sahel Research Group (SRG) of the University of Florida, the Department of Geography of the University of Niamey for the survey work and the University of Wageningen for the computer modelling.

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THE SAHEL AND WEST AFRICA CLUB

The Sahel and West Africa Club (SWAC) is an independent, international platform. Its Secretariat is hosted at the Organisation for Economic Co-operation and Development (OECD).

Mission
SWAC’s mission is to promote regional policies that will improve the economic and social well-being of people in the Sahel and West Africa.

Objectives
• Improve the regional governance of food and nutrition security.
• Improve the understanding of ongoing transformations in the region and their policy implications through regional, spatial and forward-looking analyses.

Members
Austria, Belgium, Canada, CILSS, the ECOWAS Commission, the European Union, France, Luxembourg, the Netherlands, Switzerland, the UEMOA Commission and the United States.

The World Bank, the Nepad Planning and Co-ordination Agency and the Network of Farmers’ Organisations and Agricultural Producers of West Africa are observers.

SWAC has memorandums of understanding with the NEPAD Agency and the University of Florida (Sahel Research Group).